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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Baltsar Lundgren

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EXAMINER

CALANDRA, ANTHONY J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

06/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,882	Applicant(s) LUNDGREN, BALTSAR	
	Examiner ANTHONY J. CALANDRA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Detailed Office Action

The communication dated 3/4/2009 has been entered and full considered.

Claims 1, 2, 4, 5, and 7 have been amended. Claims 8-12 have been canceled. Claim 13 is withdrawn. Claims 1-7 are currently under consideration.

Claim Interpretation

In the claims the applicant uses the term 'worm'. The term worm is not defined in the specification. The drawing shows a worm to be a screw type device. The definitions of worm which best define the term found in dictionary.com are:

- 7. SCREW CONVEYOR.
- 8. a rotating cylinder or shaft, cut with one or more helical threads, that engages with and drives a worm wheel.

Therefore based on the drawing and definitions the examiner has construed the term as a helical threaded screw device on a shaft.

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Response to Arguments

Claim objections-

In light of claim cancellation the objection to claim 8 has been withdrawn.

112 rejections-

In light of amendment the 112 2nd rejections have been withdrawn.

112 6th paragraph claim interpretation-

Examiner acknowledges the removal of 112 6th language.

Art rejections:

Upon reconsideration it was determined that the primary reference, NILSSON, has a ‘teaching away’ from the secondary reference when the reference stated that there should not be any ‘curves’ in the pipe [column 2 lines 14-21 and column 4 lines 28-30]. Therefore the examiner has withdrawn the rejections based on NILSSON.

Arguments that remain pertinent in view of newly cited art:

Applicant notes the separator taught by NILSSON is discussed in the background section.

The background section only appears to deal with cyclones [see specification pg. 1, paragraphs 2 and 3].

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Applicant argues that STEBBINS is directed to an air classifier for separating heavy and lighter particles and that the apparatus is not directed to the separation of steam from pulp or steam from any solid manner.

As these are apparatus claims the apparatus must only be capable of separating steam from fibers. An apparatus that separates gas and light particles from heavy particles would also be expected to separate steam which is also a gas from heavy particles.

Further the examiner notes that the separation of steam and fibers is an intended use and that the prior art apparatus or components taught by the prior art apparatus need only meet the structural limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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1. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,398,851 BOSE in view of U.S. Patent 4,427,336 LAKE, hereinafter LAKE.

As for claim 1, BOSE discloses a separation apparatus (20) intended for use with engine air discharge [Figure 1]. An apparatus is defined by its structural limitations not by the apparatus' intended use. The separation apparatus has an inlet (24) arranged between a pair of short sides in the housing (22). The pipe (10) feeding the device is shown to be curved immediately prior to entering the separation device. The device works by centrifugal action [column 8 lines 23-2]. The heavy particles are fed to an outer layer and exit out through outlet (72 and E) while the lighter particles and gases are fed into an inner layer and removed out an outlet of the device (61) [Figure 1]. BOSE discloses that the device has an impeller (33) along the shaft (42) of the device which assist in separating the light/heavy particles and gases [Figure 1 and column 8 lines 18-30].

A worm is a type of impeller in a screw form however, not all impellers are worms. The applicant does not define the structure of the worm so the examiner has construed the term as a helical threaded screw device on a shaft. The device clearly has a shaft [column 8 lines 5-20]. The impeller is not necessarily a worm or helical.

LAKE discloses the use of screw type impeller blades with a helical nature in centrifugal pumping [abstract, Figure 1]. At the time of the invention it would have been obvious to substitute a helical worm type impeller for the impeller of BOSE. The person of ordinary skill in the art would be motivated to do so because a helical type impeller does not 'rag' (clog) when impurities are introduced [column 1 lines 5-10 and 20-25]. As the intended use of BOSE introduces particulate matter into the separator device prevention of clogging in the device would

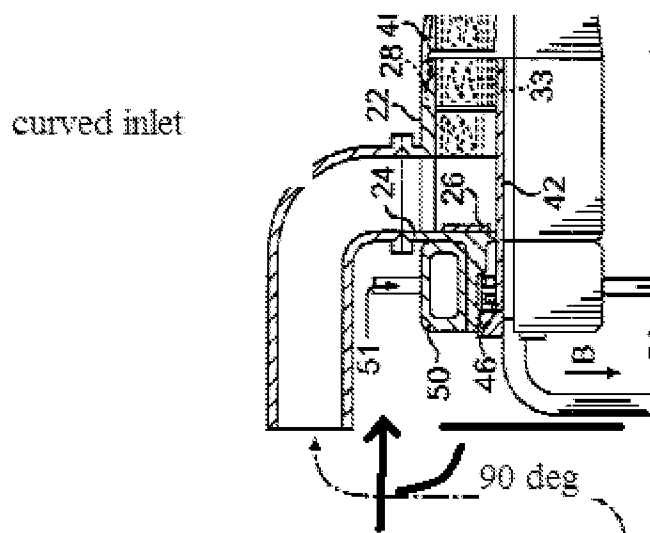
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be a sought after improvement. As such the person of ordinary skill in the art would seek out impeller which would provide said improvement.

As for claim 2, the speed/flow rate of the steam/fibers being fed to the apparatus of BOSE can be adjusted and the impeller speed of BOSE can be adjusted [column 9 lines 50-65], therefore the difference in velocity between the conduit and 'worm' can be minimized.

As for claim 3, BOSE has a radially extending rear chamber to which an outlet (54) is connected for removing light gases and particles (or for the applicant's intended use steam). The outlet is shown to exit from the rear of the device though a pipe axially not from the radial of the device. However, immediately after exiting the pipe makes a 90 degree turn and is radial to the device. It would have been well within the skill of the art and obvious to have the pipe turn internal to the device such that the light particle/gas outlet from the device would be radial and not axial by way of routine engineering decisions.

As for claims 4 and 5, BOSE shows that prior to the turn into the device the pipe (10) forms a 90 degree angle between the longitudinal extension of the device [Figure 1]



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As for claim 6, BOSE discloses that tangential inlets increase separation efficiency [column 12 lines 55-60]. Therefore it would have been obvious to make inlet (24) tangential to the separation device. The person of ordinary skill in the art would be motivated to increase separation efficiency.

As for claim 7, BOSE shows conduits entering and leaving the separation apparatus. It is not clear if these conduits are tubular, rectangular or quadratic. However, it is most likely that the pipes are tubular. In any case it would be obvious to try any one of tubular, quadratic, or rectangular conduit piping absent evidence of unexpected results. There are limited numbers of standard piping shapes in use including tubular and rectangular. The person of ordinary skill in the art would expect any shaped conduit to transfer particulate matter/gases.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony J Calandra/
Examiner, Art Unit 1791

/Eric Hug/
Primary Examiner, Art Unit 1791